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THE PETROLEUM INDUSTRY AND THE SOUTHWEST

R. B. JOHNSON, *Industrial Economist*
Federal Reserve Bank of Dallas

The economy of the United States relies upon a pattern of industrial activity which requires an adequate, uninterrupted flow of petroleum. No other nation consumes crude oil in comparable quantities or is equally dependent upon its products. Approximately 60 per cent of the petroleum consumed in the world is used by the six per cent of the world's population residing in the United States. Perhaps 10 per cent of the productive activity of the nation is associated directly with producing, transporting, processing, and distributing petroleum, and all sections of the community use it in some form. In fact, modern techniques of manufacture and distribution are related so intricately to the use of liquid fuels and lubricated machines that it would be extremely difficult, if not impossible, to operate American industry should the orderly flow of crude oil be interrupted. Moreover, the recent development of processes which utilize refinery gases and other hydrocarbons as base materials in synthesizing a variety of chemical products has increased our dependence upon the petroleum industry.

The importance of petroleum to the national economy is particularly significant to Texas and other sections of the Eleventh Federal Reserve District, since 60 per cent of the proven reserves of the United States are located within their borders. The presence of prolific oil fields in the Southwest is a primary factor shaping the character of the economic life of the area. Oil well drilling, crude oil production, transportation and refining, and such attendant activities as manufacture of oil well supplies are estimated to employ 240,000 persons in Texas, or approximately one-sixth of all persons gainfully employed in nonagricultural activities in the State. The closely related and growing chemical industry employs, perhaps, an additional 10,000 workers. Although exact pay roll figures are not available, it appears that the petroleum industry's pay roll in Texas amounted to at least \$700,000,000 in 1946. In addition, the value at the well of oil produced in Texas last year totaled approximately \$1,040,000,000, thus contributing to the State's income only one-fifth less than the total cash income received from the marketing of crops and livestock. Although the petroleum industry occupies a less significant position in other sections of the Eleventh Federal Reserve District, it is, nevertheless, an important factor contributing to the income of those areas.

TABLE I: PRODUCTION AND PROVEN RESERVES OF
CRUDE OIL, BY CONTINENTS

	Daily average production (in barrels) 1946	Reserves (in thou- sands of barrels) 1946	Production and Re- serves as percentage of world total	
			Production	Reserves
Total world.....	7,643,589	59,163,024	100.0	100.0
North America...	4,954,866	22,101,024	64.8	37.4
United States...	4,744,901	21,078,024	62.1	35.6
11th District...	2,265,000	12,600,365	29.6	21.3
South America...	1,228,205	8,336,000	16.1	14.1
Europe (including USSR).....	574,778	8,840,150	7.5	14.9
Africa.....	25,274	75,500	.3	.1
Asia.....	860,411	19,810,000	11.3	33.5
Near East.....	703,836	18,500,000	9.2	31.3
Far East.....	156,575	1,310,000	2.1	2.2
Undistributed...	55	350	.0	.0

SOURCES: *The Oil Weekly*. *The Oil and Gas Journal*.

A decline in the productivity of the area's petroleum reserves, a permanent cut-back in drilling activity, or a shift of refining operations from Coastal Texas to the East Coast or elsewhere would require a significant readjustment of the Southwestern economy. On the other hand, continued expansion of oil production, drilling, and refining, and growth of the ancillary chemical industry should contribute to increased utilization of capital, management, and labor in the area and to an expansion of income throughout the community.

The Demand for Petroleum

Demand for petroleum products in the United States has increased almost without interruption since the completion of the first commercial oil well in this country in 1859, and has risen markedly since the beginning of this century. Even during the depression years of the 1920's and 1930's, when consumption of other products declined drastically, consumption of petroleum leveled off but was not reduced appreciably, reflecting the difficulty encountered in reducing industrial, commercial, and residential consumption of fuel oils after facilities had been adapted to using them, and the disinclination of automobile owners to curtail driving. Acceleration of general manufacturing activity in the United States has been a stimulant to petroleum demand because of the increased need for industrial fuels and lubricants and the rising requirements for motor fuel accompanying increases in consumer incomes.

Domestic demand for crude oil and its products rose from 2,540,000 barrels daily in 1930 to 3,373,000 barrels daily in 1939. During the war, expanded industrial operations and enormous maritime and military consumption of fuel oil and other petroleum products magnified the need for oil, and consumption rose steadily. Domestic demand, including demand by our Armed Forces abroad, rose to 4,844,000 barrels daily in 1945, or 58 per cent above the prewar 1935-39 average. It was forecast generally that petroleum demand would decline sharply during the period of postwar readjustment, since it was anticipated that military requirements would shrink, industrial activity would be curtailed while mechanical reconversion took place, and civilian consumption would be limited by the shortage and the depreciated condition of automobiles. A postwar cut-back in consumption did not materialize, however. The "magic carpet of ships" to bring the military forces home and an expanded maritime commerce partly counteracted declining military use. Industry converted much more rapidly than had been anticipated and thus maintained its consumption at a high level, while private consumers of gasoline and heating fuel increased their consumption surprisingly. Consequently, instead of declining markedly, domestic demand for petroleum products established a new peak average of 4,893,000 barrels daily in 1946.

The consensus of analysts of the outlook for the petroleum industry now is that domestic demand for petroleum, instead of receding from the present high level, probably will increase steadily during the coming decade. United States demand for all oils, excluding a relatively small volume of exports, may reach an all-time high of about 5,100,000 barrels daily in 1947, and, if current projected trends materialize, may exceed 5,500,000 barrels daily early in the 1950's. Domestic demand for motor fuel, which reached a peak of 2,010,000 barrels daily in 1946, undoubtedly will expand as old cars are replaced and the number of commercial and private automobiles in operation is increased. The accelerating shift from coal to oil burning equipment by industrial, commercial, and private users also will stimulate petroleum demand. Manufacturers of oil burners report a backlog of orders for 1,600,000 space heaters and a six- to eight-month backlog of orders for central heating units. Diesel motors in increasing numbers are becoming important users of petroleum power in industry and in rail and motor transportation, and a big farm market exists which has the funds to support the purchase of large quantities of petroleum-using equipment.

Any projection of demand for petroleum products should be recognized as being subject to a probable margin of error. Such unpredictable factors as the rate of population growth, the direction of population movements, the degree of suburbanization, the level of employment, the efficiency of motors, and the development of alternative sources of power will influence the trend of demand for petroleum products. A high level of business and industrial activity in the United States might stimulate a demand even exceeding present optimistic projections. Only a fundamental change for the worse in economic conditions or a technological revolution which rendered petroleum a less significant source of power could reverse for long the upward trend in consumption which thus far has characterized the experience of the petroleum industry in the United States.

The Trends of Production and Drilling

Since early in the 1920's, the United States has relied primarily upon its own reserves to supply its increasing domestic needs for petroleum and to support a small export balance of refined products. During and immediately after World War I, large quantities of crude oil were imported, but as the prolific oil fields of California, Oklahoma, and Texas were developed, imports declined, and during the 1930's, they were exceeded slightly by crude oil exports. The annual net movement of crude from or to foreign areas since 1921 has been small, averaging less than three per cent of total domestic consumption; United States production, therefore, has paralleled closely the steep upward trend of domestic demand for petroleum products.

Production of crude oil in this country has increased from 1,213,000 barrels daily in 1920 to 4,745,000 barrels daily in 1946. This marked expansion is attributable in large part to a phenomenal increase of production in Texas from 265,000 barrels daily in 1920 to 2,079,000 barrels daily in 1946. Last year Texas produced 44 per cent of the crude oil produced in the United States, and the Eleventh Federal Reserve District produced 48 per cent of the national total. Figures on production in the United States and in sections of the Eleventh District for selected years since 1929 are shown in Table II.

Further increase in the relative importance of Texas and the Eleventh District as a crude oil producing area seems very likely if the anticipated expansion of demand for petroleum products occurs. Total production from known fields outside this district apparently cannot be raised appreciably above the level of 2,480,000 barrels daily attained during 1946 without exceeding maximum rates of efficient production. In Texas, on the other hand, production can be expanded considerably in already developed fields without reducing their ultimate recovery. The Texas Railroad Commission recently estimated that at present 2,675,000 barrels could be produced daily in the State if West Texas were given its outlet capacity and fields in the rest of the State were allotted allowables equal to their present maximum efficient recovery rates. The Eleventh Federal Reserve District probably has a maximum efficient production rate of at least 2,865,000 barrels daily at this time, which is 18 per cent above the all-time production peak attained in June 1946 and 26 per cent above the 1946 average. In order to maintain production in the district even at the present level for an extended period, however, it will be necessary to discover prolific new oil sands and to intensify developmental activities.

TABLE II: PRODUCTION OF CRUDE OIL
UNITED STATES AND ELEVENTH FEDERAL RESERVE
DISTRICT

	(Daily average in thousands of barrels)			
	1946	1945	1939	1929
United States.....	4,745	4,688	3,466	2,760
Eleventh District.....	2,265	2,243	1,496	855
New Mexico.....	101	102	103	5
North Louisiana.....	85	71	68	37
Texas.....	2,079	2,070	1,325	813
Panhandle.....	83	87	67	86
West Texas.....	520	477	221	367
North Texas.....	165	149	112	141
East Texas.....	471	495	482	19
Southwest Texas....	360	335	225	69
Gulf Coast.....	480	527	218	131

SOURCE: Bureau of Mines and American Petroleum Institute

TABLE III: DRILLING ACTIVITY PROGRAMMED FOR
1947—UNITED STATES AND ELEVENTH FEDERAL
RESERVE DISTRICT

	Total wells (number)		Total footage (in thousands of feet)	
	Programmed 1947	Actual 1946	Programmed 1947	Actual 1946
United States.....	30,041	29,228	106,891	97,047
Eleventh District.....	10,943	9,015	44,708	38,950
New Mexico.....	597	411	2,550	1,423
North Louisiana.....	703	800	3,150	3,175
Texas.....	8,643	7,804	39,008	34,352
Panhandle.....	491	310	1,558	943
West Texas.....	2,110	1,780	11,050	8,715
North Central.....	2,825	2,705	7,750	7,065
Eastern Texas.....	727	687	4,000	3,792
Southwest.....	649	603	2,338	2,138
Gulf Coast.....	1,841	1,719	12,312	11,599

SOURCE: *The Oil and Gas Journal*.

Drilling activity in the United States and the Southwest was curtailed sharply during the war by shortages of pipe and skilled labor and by rigid government limitations on the use of material, but in 1945 and 1946 exploratory and developmental drilling were increased substantially. More wild-cat wells were completed in the United States and in the Southwest last year than in any year of record, and although the total number of wells completed, including developmental wells, was somewhat smaller than in the years immediately before the war, the total footage drilled was larger than in any prior year except 1937.

It is likely that drilling activity will continue to expand as greater supplies of pipe and other equipment become available, and although there

is no assurance that adequate quantities of oil will be discovered, petroleum geologists expect discovery rates to be satisfactory even if there should be a decline in the ratio of productive wells to total

wells drilled. An increase in the average cost of drilling wells hardly can be avoided, however, for the more prolific undeveloped and undiscovered oil sands probably lie deep underground or in sections such as the offshore areas where drillers will encounter unusual problems which can be solved only by heavy expenditures. The depth to which wells are drilled in this country has increased substantially in recent years, and the cost of materials, equipment, and labor has risen. Available data indicate that the average cost of drilling an exploratory well in Texas, excluding lease and exploration costs, rose from approximately \$14,000 in 1939 to \$33,000 in 1945. Total cost per exploratory well, including lease and exploration costs, rose from \$36,000 in 1939 to \$69,000 in 1945 and undoubtedly was higher in 1946.¹ Therefore, drilling the wells which will be needed to sustain production in the Southwest and in the nation may require considerably larger expenditures than before the war unless unusual advances occur in recovery and exploration techniques.

Heavy expenditures will be necessary also to convert wells from flow to pump or lift and to replace worn-out equipment of wells already on pump. The number of wells on pump in Texas rose from 50,400 in 1939 to 62,150 in 1945.² An additional 4,195 wells were converted to pump or lift in the State in 1946, and perhaps 5,600 will be converted during 1947.³ It has been estimated that \$10,500,000 may be spent in Texas this year on mechanical maintenance of wells if parts and equipment are available in sufficient quantities.³ Total expenditures on pumping and lifting equipment in the State are likely to be much larger.

Factors Affecting Prices of Crude Oil

Heavy demand for crude petroleum and rising costs of production already have contributed to a substantial increase in the price of crude oil since the end of the war. During February 1947, crude oil at the well averaged \$1.67 per barrel in the United States, as compared with an average of \$1.22 under price control during 1945 and of \$1.02 in 1939 and 1940. Some representatives of the petroleum industry, however, consider present prices too low to meet costs of production at marginal wells and to induce the volume of exploration and development which may be required to sustain production at the present high level.

The price of crude oil in the United States is not influenced exclusively by domestic demand and supply relations. Before the war, the petroleum industry in this country operated in an environment of potential abundance, since domestic producers could and occasionally did produce greater quantities of crude oil at low cost than were needed to meet domestic requirements. The nation's proven crude oil reserves probably can supply all the greatly increased needs of our economy, but perhaps only at a substantially higher cost per barrel of oil produced. It is noteworthy, therefore, that tremendous reserves have been discovered abroad in recent years, particularly in the Near East, which can produce oil at low cost from prolific flowing wells. These foreign fields, which now are being developed rather rapidly and which are owned or controlled in part by United States interests, are unlikely to find an adequate market for their potential output in devastated Europe or the impoverished Orient for many years. Their developers may turn, therefore, to the United States market. Exact data are not available, but it appears that oil produced in the Near East could be transported to our seaboard and compete favorably with domestic oil at the present price, despite the existing import tax of approximately 21 cents per barrel. Potential competition from foreign oil, therefore, may deter a permanent substantial increase in crude oil prices.

TABLE IV: CRUDE OIL PRICES AND VALUE OF CRUDE OIL PRODUCED—UNITED STATES AND ELEVENTH FEDERAL RESERVE DISTRICT

Year	Annual production (in thousands of barrels)		Value at wells (in thousands of dollars)		Estimated average price per barrel ^a	
	U. S.	11th Dist.	U. S.	11th District	U. S.	11th Dist.†
1946	1,731,679	826,725	\$2,441,667	\$1,157,400 ^a	\$1.41	\$1.40 ^a
1945	1,710,275	818,695	2,086,535	990,621	1.22	1.21
1944	1,677,753	809,056	2,046,859	978,958	1.22	1.21
1943	1,503,614	656,808	1,803,811	794,738	1.20	1.21
1942	1,386,645	546,730	1,643,470	645,141	1.19	1.18
1941	1,402,228	576,253	1,602,000	651,166	1.14	1.13
1940	1,353,214	552,983	1,385,440	552,983	1.02	1.00
1939	1,264,962	546,040	1,294,470	540,580	1.02	.99
1930	898,011	315,645	1,070,200	312,489	1.19	.99
1920	442,929	120,761	1,360,745	391,266	3.07‡	3.24
1910	209,557	13,477	127,900	8,625	.61	.64
1900	63,621	836	75,989	869	1.19	1.04

^aEstimated.

*Average price posted at wells.

†Average price posted at wells, Texas.

‡Highest price since 1872.

SOURCES: American Petroleum Institute; *The Oil Weekly*; The Texas Mid-Continent Oil and Gas Association; The Bureau of Mines.

¹Data compiled by Texas Mid-Continent Oil and Gas Association

²Texas Railroad Commission records quoted by Texas Mid-Continent Oil and Gas Association.

³Estimated by *The Oil Weekly*.

However, foreign sources probably cannot be relied upon to meet a large or even a very significant share of the United States' essential requirements for crude oil for several years. The foreign fields which are potentially the most productive are largely undeveloped. An extensive drilling and pipeline building program and considerable expansion of the ocean tanker fleet would be necessary before foreign sources could contribute significantly to supplying the nation's needs. Moreover, the nation's security might be imperiled seriously were it to become largely dependent upon foreign crude oil to support its petroleum-gear economy.

The Adequacy of Reserves

The vital importance of petroleum to our economy and the prospective increase in its use justify the question, "Are our domestic reserves adequate to support our expected needs?" The United States has depleted its known store of petroleum more rapidly than any of its other power resources. Between 55 and 60 per cent of the discovered petroleum reserves of the nation have been used, whereas only two per cent of known bituminous coal deposits and 35 to 40 per cent of the proven natural gas reserves have been exploited. It is estimated that on January 1, 1947, the proven reserves of crude oil of the United States amounted to 21,345,000,000 barrels.

In analyzing the position of the United States, however, several qualifications of proven reserve estimates should be considered. These estimates are simply evaluations of the quantity of crude oil which can be produced profitably from known fields with existing techniques of recovery. They would be too low if the percentage of crude oil recovered from oil fields should be increased substantially in the future by technological improvements which raise the efficiency of field development and exploitation. Even now progress is being made in the use of steam, gas, and water lift in unitized fields which will expand recovery, and recently it was announced that techniques utilizing germ life to generate lift pressure in oil sands have been developed which may permit a very substantial increase in recovery from petroleum reservoirs. Moreover, as geologic theories progress and prospecting techniques advance, additional prolific oil sands may be discovered. Reputable geologists estimate that perhaps 50,000,000,000 barrels of crude oil remain in undiscovered reservoirs within the United States. The improvement of exploration techniques, deeper drilling, and offshore drilling may reveal oil fields in this country and under adjacent waters which will rival the greatest discoveries of the past.

Moreover, as has been indicated, abundant reserves of crude oil exist outside the United States, and although during a war they might be inaccessible, during peace it seems likely that their owners and developers would turn to this country as a natural market for their oil, unless oil imports were excluded by high tariffs or other restrictions. In addition, abundant alternative sources of liquid fuel exist on the North American continent and within the boundaries of our nation. These include large reserves of natural gas, which can be converted readily to high-test liquid fuel; oil shales in the Rocky Mountain region; tar sands in Canada; and extensive bituminous coal deposits, from which liquid fuel can be synthesized. The cost of producing gasoline and other petroleum products from these alternative sources is excessive at this time as compared with the cost of refining crude petroleum, but technological advances in processing gasoline and other products from these sources or a substantial rise in the cost of crude oil could eliminate this disparity. During a national emergency, the alternative sources probably would provide satisfactory substitutes for crude oil irrespective of the cost, provided facilities for exploiting them were available.

A substantial shift from the use of Southwestern crude to the use of foreign crude or of alternative raw materials would affect seriously the economy of the Southwest, since production of crude oil is such an important source of income and provides one of the principal bases for further industrial development. However, there appears to be little basis for believing that such a shift will occur

TABLE V: ESTIMATED PROVEN OIL RESERVES*
UNITED STATES AND ELEVENTH FEDERAL RESERVE
DISTRICT

	(In thousands of barrels)		
	1947	1946	1939
United States.....	21,345,138	21,078,024	18,232,774
Eleventh District.....	12,715,845	12,600,365	11,080,384
New Mexico.....	507,914	560,112	674,513
North Louisiana.....	407,769	299,602	196,641
Texas.....	11,800,162	11,740,651	10,209,230
Panhandle.....	338,357	389,317	748,200
West Texas.....	3,245,845	3,088,044	2,183,972
North Texas.....	424,181	482,738	522,984
Eastern Texas.....	3,549,659	3,418,489	3,038,890
Southwest Texas.....	1,617,418	1,059,404	1,197,560
Gulf Coast.....	2,624,702	3,302,659	2,517,624

*January 1 of each year.

SOURCE: *The Oil and Gas Journal* and The American Petroleum Institute.

in the foreseeable future. Approximately 60 per cent of the proven crude oil reserves of the nation are located within the Eleventh Federal Reserve District; 55 per cent within Texas. Also, an abundant reserve of natural gas is found in the Panhandle and Coastal Texas, from which several billion barrels of petroleum product equivalents could be synthesized at comparatively low cost.

The proven oil reserves of Texas and the Eleventh District are not being depleted as rapidly as the reserves in other regions of the United States. The district is accounting for less than 50 per cent of annual domestic production, whereas 60 per cent of domestic proven reserves lie within its borders. It appears, furthermore, that the prospects for additional large discoveries are somewhat more favorable in the Southwest than in the rest of the United States. Deep drilling is revealing oil strata under many sections of Texas which could not have been exploited a decade ago but which it is now feasible to develop. In Southwest Texas in 1946, numerous small fields were discovered to be sections of a large field which ultimately may rival East Texas as a producing area. In addition, the Gulf Coast and the offshore areas of the Gulf of Mexico are becoming more important as potential producing areas, and in the opinion of many geologists, the latter may prove to be one of the world's greatest reservoirs of crude oil.

In some sections of the district the outlook is less promising. As Table V indicates, there have been net reductions of the proven reserves of New Mexico, the Panhandle, and North Texas since 1939, and although it is not certain that large reserves will not be discovered in those areas, present indications are that their most prolific fields have been tapped. The position of the major producing areas, however, has improved. Eastern Texas, Southwest Texas, West Texas, and North Louisiana now have much larger proven reserves than immediately before the war, although they contributed heavily to oil production during the war period. Some optimism seems justified, therefore, in appraising the reserve situation in the district. Adequate quantities of crude oil apparently will be available to support further expansion of production and refining.

Refining Operations in the Southwest

The diverse petroleum products upon which the United States economy now depends are produced in plants which contrast markedly with the small-scale refineries of twenty-five years ago. At the end of World War I, refining was a relatively simple process involving a moderate investment and employing semiskilled labor. Today, it is a complex operation requiring the skills of the chemist, physicist, and engineer, and a very large investment in plant and equipment. This rapid transition was occasioned by technological progress which converted refining into an intricate chemical process. Refining no longer consists only of separation of a few petroleum fractions with general properties, such as gasoline, kerosene, lubricating oil, and wax. It has become, as well, a process of chemical synthesis in which many different hydrocarbons having specialized properties can be manufactured at choice.

The utilization of crude petroleum and refinery gases as basic chemicals has amplified petroleum uses to a greater extent, perhaps, than is generally known. Most of the components of synthetic resins and plastics are or can be derived from petroleum. Chemical synthesis permits conversion of crude oil components into rayon, nylon, synthetic rubber, thermo-plastics, paints, and lacquers. In addition, petroleum fractions are base materials in solvents, detergents, emulsifying agents, penetrants, explosives, fertilizers, drugs, and cosmetics. In fact, more than two hundred different products used by industry or in the home are manufactured from petroleum hydrocarbons.

Gasoline, kerosene, fuel oil, and lubricants still account, however, for 90 per cent of the yield from crude runs to refineries. The major differences in modern refinery operations as compared with refining of two decades ago are that former waste gases are now recovered as valuable byproducts for further processing in chemical plants and, perhaps more important, that greater flexibility in manufacturing the four basic petroleum products has been achieved, so that each can be produced in approximately the quantity and quality desired.

The advance of refining technology was accelerated greatly by the war. It has been stated by industry representatives that six or seven years of "normal" progress was compressed into the three years between 1941 and 1944. Catalytic cracking units were constructed in large numbers in order to supply the heavy demands for high-octane aviation gasoline, and specialized types of refining units and chemical plants were developed to speed production of toluene, styrene, butadiene, and other chemicals. It is indicative of the magnitude of the expansion that approximately \$2,000,000,000 were spent on new refineries and related installations in the United States from 1941 to 1945.

Rapid technological advance almost certainly will continue, and further heavy investment in refining and related facilities probably will be necessary. Demand for the synthetics derived from petroleum greatly exceeds present productive capacity, and a substantial investment would be required to provide the needed facilities. Moreover, refineries, which always have been characterized by rapid obsolescence, appear to be entering a period of large-scale replacement. It is probable, therefore, that the petroleum processing centers of the United States will be stimulated by further expansion of refining facilities and refining activity. In addition, they may be the beneficiaries of the growth of related chemical plants and of the development of industries which utilize plastics and other products of chemical synthesis.

Approximately thirty per cent of the crude oil refining capacity of the United States is located in the Eleventh Federal Reserve District. The Texas Coastal area is the center of refining activity in the Southwest. It is excellently suited for successful refinery operations. Its seaboard provides ready access to cheap ocean transportation, and its inland waterways provide a communications network between refineries and industrial consumers. Prolific oil fields are located in the area and in adjacent Eastern and Southwestern Texas, and abundant supplies of natural gas are available for use as fuel and as a source of chemicals. In addition, the base materials of heavy acids and other chemicals used in refining are located near the coast.

TABLE VI: REFINING CAPACITY IN THE UNITED STATES AND THE ELEVENTH FEDERAL RESERVE DISTRICT, 1946

(Daily average in thousands of barrels)

	Number of re- fineries	Crude oil capacity	Cracking capacity	Per cent of total U. S. — Crude Cracking	
United States.....	436	5,415.0	3,174.0	100.0	100.0
Eleventh District..	109	1,619.0	1,080.0	29.9	34.0
New Mexico.....	6	15.0	6.0	.3	.2
North Louisiana..	7	51.0	20.0	.9	.6
Texas.....	97	1,553.0	1,054.0*	28.7	33.2*
Southwest.....	23	140.3	34.3	2.6	1.1
North.....	17	41.9	14.4	.8	.5
West.....	10	51.2	26.7	.9	.8
Panhandle.....	5	65.2	106.5	1.2	3.4
East.....	17	100.0	49.6	1.8	1.6
Coastal.....	25	1,154.4	802.5	21.4	25.3

*20,000 barrels unallocated.

SOURCE: *The Oil and Gas Journal*.

to locate its plants in the area, particularly since the Coastal section has the advantages already cited and, in addition, other basic chemical resources, such as sulphur and limestone, and an abundant and fairly skilled labor supply.

Substantial progress in developing a chemical industry has been made. At least \$600,000,000 were invested in Coastal Texas in aviation gasoline plants and related chemical facilities during the war period. Since the end of the war, many of these projects which were government financed have been bought by private corporations and expanded, and several entirely new projects of great size have been initiated. Chemical plants with an aggregate cost of nearly \$150,000,000 are being constructed or are projected in the Coastal area to produce glycerine, fungicides, heavy chemicals, components of nylon, and other products derived in part from petroleum hydrocarbons.

Further growth of refining activity and the development of a great chemical industry in Coastal Texas would provide a stimulus which would be felt throughout the economy of the Southwest. Both industries are large capital users and both tend to replace their plant investment frequently. The presence of large refineries and the growth of chemical plants already have exerted a significant influence on the heavy construction industry of the Southwest and the many plants in the area which manufacture construction materials. Although neither the refining nor the chemical industry utilizes large quantities of labor as compared with capital investment, refineries in Texas now employ 37,500 persons, and chemical plants employ perhaps another 10,000. The average wage rates in the plants are high as compared with those of many other industries, and large numbers of skilled, highly paid technicians are required. These two industries, consequently, are important contributors to the purchasing power of the area. In addition, their presence in the Southwest attracts other industries to supply their requirements and to utilize the fuel and raw materials which they produce.

The Texas Coast was an important refining center before the war, and the war program stimulated its rapid development, especially in catalytic cracking facilities. It will be observed from Table VI that 25 per cent of the cracking capacity of the United States is located in the Texas Coastal area. This concentration of modern, efficient refining capacity is likely to be a significant influence upon the future industrial development of the section. Catalytic cracking tends to be more efficient than thermal cracking and is adapted to produce petroleum fractions used in chemical synthesis which cannot be manufactured easily by other refining techniques. The heavy concentration of cracking capacity near the Texas Coast is very likely, therefore, to induce the chemical industry

Review of Business, Industrial, Agricultural, and Financial Conditions

DISTRICT SUMMARY

A seasonally high volume of sales attended district department store activity in January, and although the margin of increase over corresponding periods a year ago declined moderately toward the end of January and early February, the volume of buying, measured in dollars, at the middle of the latter month was somewhat greater than at the same time last year. Merchandise stocks of both department and furniture stores appear to have been in better balance with reference to assortment and quantity of goods at the end of January than on that date a year ago, due to numerous stock-reducing sales of certain excess inventories and to improvement in the supply of many items of consumer durables. Continuation of the January rise in construction contract awards and of the improvement in output of building materials is currently regarded as related to the wage-rate and price trends of the next few months and to efficient utilization of construction labor and voluntary lowering of builders' margins. District production of crude petroleum, after reaching the lowest level in ten months during January, was estimated to have made moderate gains during February. A substantial increase in the Texas Railroad Commission's allowable production for March creates assurance of larger district production this month. Following snow, sleet, and low temperatures in most of the district at the start of the year, improvement in weather conditions in the latter part of January and the first half of February enabled truck crops and winter wheat to recover from most of the damage inflicted by the cold and permitted resumption and extension of interrupted field work. Some fields of oats and barley, frozen beyond recovery, have been seeded to spring grains, while wheat in parts of the South High Plains was given a new setback by severe dust storms at the end of January. Livestock and ranges, though experiencing some deterioration from severe weather early in the year, were reported in about average condition in most of the district at the beginning of February.

BUSINESS

Sales, by dollar volume, in reporting department stores of the district were at a record level for the season in January of this year. The seasonally adjusted sales index, based on daily average sales in 1935-1939 as 100, stood at 364, compared with 304 in the same month of 1946. Though the total of sales at these stores were down 46 per cent from the all-time record of the preceding month, it exceeded by 20 per cent the total for January a year ago. From this it would appear that the great number of stock-reducing sales in the early part of the year were effective in stepping up the seasonal rate of consumer spending and that, after allowance has been made for the sharp rise which has occurred in the prices of many items of department-store merchandise, the physical volume of goods sold in January of this year may have equaled, if not exceeded, that of the corresponding month in 1946. Since January, a slightly recessive trend in retail buying is suggested by the behavior of sales in weekly reporting department stores for the first two weeks of February, during which the increase in total sales over the corresponding period a year ago dropped to four per cent.

At retail furniture stores in the district, total sales in January showed a gain of approximately ten per cent over those of the same month a year ago and a drop of some 35 per cent from the high figure of the previous month. Increased use of installment credit in the buying of furniture is shown in the rise of the ratio of instalment sales to total sales from 72 per cent in

January a year ago and 78 per cent in December 1946 to 80 per cent in January of this year, or approximately the prewar ratio.

Merchandise stocks at the end of January both in department stores and in furniture stores, though showing very sharp increases over January 1946, were only slightly larger than at the end of December. Orders outstanding at department stores were down 31 per cent from January a year ago but six percent higher than in December. The rate of collections on department-store charge accounts was somewhat higher than in December, whereas collections on instalment accounts of these stores were a little less rapid than in the preceding month.

WHOLESALE AND RETAIL TRADE STATISTICS

	Number of reporting firms	Percentage change in			
		Net sales		Stocks	
		January 1947 from January 1946	December 1946	January 1947 from January 1946	December 1946
Retail trade:					
Department stores:					
Total Eleventh District.	48	+20	-46	+ 83	+ 1
Corpus Christi.....	4	+40	-49	+104	+ 1
Dallas.....	7	+19	-43	+ 67	- 7
Fort Worth.....	4	+21	-52	+ 79	+ 1
Houston.....	7	+30	-47	+107	- 2
San Antonio.....	5	+16	-41	+ 57	- 5
Shreveport, La.....	3	+ 6	-59	.....	.....
Other cities.....	18	+11	-47	+ 92	+ 9
Retail furniture:					
Total Eleventh District.	45	+10	-35	+128	+ 3
Dallas.....	5	- 1	-29	+167	+ 1
Houston.....	5	+ 8	-28	.....	.....
Port Arthur.....	3	+23	+17	.....	.....
San Antonio.....	4	+18	-44	.....	.....
Wholesale trade:*					
Machinery equipment & supplies.....	5	+34	- 8	+ 10	+ 6
Automotive supplies.....	4	- 9	-15	.....	.....
Drugs.....	3	+ 7	+16	.....	.....
Groceries.....	21	+23	+ 9	+ 33	+ 1
Hardware.....	9	+27	+16	+ 77	+11
Tobacco and products.....	3	+95	- 2	.....	.....

*Compiled by United States Bureau of Census. (Wholesale trade figures preliminary.)
†Stocks at end of month. ‡Indicates change less than one-half of one per cent.

INDEXES OF DEPARTMENT STORE SALES AND STOCKS

	Daily average sales—(1935-1939=100)				Adjusted—			
	Unadjusted*				Unadjusted*			
	Jan. 1947	Dec. 1946	Nov. 1946	Jan. 1946	Jan. 1947	Dec. 1946	Nov. 1946	Jan. 1946
District.....	285	567	434	246r	354	348	356	304r
Dallas.....	304	549	429	254r	370	347	354	310r
Houston.....	290	582	435	224r	372	366	360	287r

Stocks—(1935-1939=100)

	Unadjusted*				Adjusted—			
	Jan. 1947	Dec. 1946	Nov. 1946	Jan. 1946	Jan. 1947	Dec. 1946	Nov. 1946	Jan. 1946
District.....	294	306	324	161	327	364	303	179

*Unadjusted for seasonal variation. r-Revised.

Wartime and Postwar Shifts in Consumer Spending at District Department Stores

Changes in the distribution of consumer spending at department stores of this district during the war and in the first postwar year are disclosed by an analysis of annual ratios of departmental sales to total sales from 1941 through 1946. The major wartime shift in such spending was away from durables to soft goods. This change was not one of deliberate choice on the part of consumers, but was forced by the sharp limitation imposed by war needs on the production and supply of all consumer durable goods. Manufacture of some of the most important of these goods normally sold in department stores, such as mechanical refrigerators, electric washers, kitchen ranges, radios, floor coverings, and high-grade furniture, was virtually suspended while factories devoted their facilities, materials, and manpower to the production of munitions and other war goods. The effect of all this on the spending habits of customers of Eleventh District department stores appears in a sharp reduction during the war years in the annual ratios of durable goods sales to total sales of these stores and compensating gains in the ratios

of sales in the soft goods departments, particularly women's, misses', and girls' apparel and accessories.

Sales of Selected Departments as Percentages of Total Store Sales in Department Stores, Eleventh Federal Reserve District, 1938-1946

Department	1938	1939	1940	1941	1942	1943	1944	1945	1946
Piece goods.....	6.8%	6.6%	6.9%	6.9%	7.2%	7.6%	7.7%	7.1%	7.2%
Small wares.....	8.1	8.2	8.5	8.3	8.1	8.5	8.8	8.7	7.6
Toilet articles and drugs.....	3.9	3.9	3.8	3.6	3.7	3.8	3.8	3.6	2.9
Accessories—Women's misses', girls'.....	20.9	20.6	21.5	21.0	23.1	22.9	23.9	23.4	22.7
Apparel—Women's, misses', girls'.....	18.6	19.1	21.1	20.8	21.8	24.3	23.9	25.8	23.8
Furs.....	2.3	2.4	2.9	2.9	2.4	2.6	2.0	1.9	1.6
Men's and boys' wear.....	11.6	11.5	11.2	10.9	12.3	12.0	11.3	11.0	11.8
Men's clothing.....	4.3	4.4	4.3	4.3	4.6	4.4	3.7	3.4	3.9
Home furnishings.....	9.6	9.3	11.7	12.5	8.3	6.7	6.0	6.4	10.3
Furniture and bedding.....	1.7	1.7	2.1	2.3	1.5	1.3	1.3	1.6	2.0
Domestic floor coverings.....	1.7	1.5	1.7	1.8	1.2	1.1	1.0	0.8	1.1
Major appliances.....	1.6	1.5	2.5	3.0	1.1	0.4	0.2	0.2	1.7
Basement store.....	9.5	9.9	9.8	9.8	10.4	9.4	9.3	9.1	8.7

Most of the important durable goods, such as furniture, floor coverings, lamps, refrigerators, ranges, washers, and other household appliances, sold in department stores are found in the home furnishings department. For that reason, annual sales of this department may be taken as an index of the relative importance of durable goods in consumer spending at district department stores. In 1941, the last prewar year, expenditures in the home furnishings department accounted for \$12.50 out of each \$100.00 spent by customers of these stores. Expenditure for furniture (including bedding), floor coverings, and major household appliances made up \$7.10 of the \$12.50, or one dollar out of every fourteen spent in the stores. The same year expenditures for women's, misses', and girls' apparel accounted for \$20.80 out of each \$100.00 spent, while expenditures for accessories made up another \$21.00. Expenditures in these two major soft goods departments thus constituted approximately \$42.00 of each \$100.00 spent. During the four war years, 1942-1945, expenditures for home furnishings in relation to total sales of department stores dropped by almost exactly one-half, that is, from \$12.50 out of each \$100.00 of sales in 1941 to \$6.00 in 1944 and \$6.40 in 1945. The ratio of spending for furniture, floor coverings, and major appliances dropped from \$7.10 of each \$100.00 in 1941 to \$2.60 in 1945, a decline of approximately two-thirds in relative importance to total sales of the stores; while purchases of major appliances alone dropped from \$3.00 out of every \$100.00 of sales in 1941 to \$0.20 in 1944 and 1945, a loss of more than 90 per cent in relative importance.

The wartime decline in the ratio of spending for home furnishings (mostly durable goods) was somewhat more than offset by an increase in the ratio of expenditures for women's, misses', and girls' apparel and accessories. For apparel, expenditures rose from \$20.80 of each \$100.00 of department store sales in 1941 to \$25.80 in 1945; for accessories, from \$21.00 to \$23.40; and for these two major soft-goods departments combined, from \$41.80 to \$49.20. Thus expenditures for the two groups of soft goods rose by \$7.40 out of each \$100.00 of sales, while spending for home furnishings, including major items of consumer durable goods, dropped by \$6.10.

A rather surprising development in connection with spending for one item of women's apparel was a decline in the ratio of sales of furs from \$2.90 out of each \$100.00 of sales in 1941 to \$1.90 in 1945. The decline in ratio of sales of this item, however, did not greatly affect the gain in ratio for the apparel department as a whole. In other soft-goods departments, wartime fluctuations in ratios of consumer spending were of little significance except in the case of men's clothing, where a decline of more than one-fifth (from \$4.30 to \$3.40) in relative importance of expenditures occurred.

The scarcity of supply during the war years of such luxury items as silverware, jewelry, and watches is reflected in the fact

that the ratio of expenditures for these items declined significantly during 1942 and 1943, at a time when consumer disposable incomes were rising at a rapid rate. In 1944 the ratio of spending for these items stood at exactly the 1941 level of \$1.80 out of each \$100.00 of department store sales.

In the first postwar year distribution of spending between durables and soft goods by customers of district department stores showed a strong tendency to return to the prewar pattern. Despite short and unbalanced supply of merchandise, expenditures for home furnishings, including major appliances, rose from \$6.40 out of each \$100.00 of sales in 1945 to \$10.30 in 1946, thus retrieving \$3.90, or more than 60 per cent, of their wartime drop in relative importance. Purchases of major appliances alone climbed from the near vanishing point of \$0.20 per \$100.00 of sales in 1945 to \$1.70 in 1946, thereby regaining in one year more than half the loss in ratio that had occurred during the four years of war. These gains in the portion of consumer spending attracted to durable goods were accompanied by a decrease in the ratios of expenditure for some important classes of soft goods. Spending for women's, misses', and girls' apparel dropped from \$25.80 of each \$100.00 of sales in 1945 to \$23.80 in 1946, and for accessories from \$23.40 to \$22.70. Expenditures for furs (included in apparel) continued the downward trend of the war years, and spending for nondurable toilet articles, which during the war had held close to prewar ratios, declined by nearly 20 per cent in relative importance from 1945 to 1946. The total of these declines in ratios of expenditure for apparel, accessories, and toilet articles brought the drop in important soft-goods items into almost exact balance with the gain in the ratio of expenditures for home furnishings, including major household appliances. There is reason to believe that, with larger and better balanced production of appliances and other home furnishings during 1946, the 1941 ratio of expenditures for consumer durables would have been regained, or possibly exceeded.

In conclusion, and apart from the matter of comparisons between consumer expenditures for durables and for soft goods, there are interesting implications in the ratios of basement store sales to total sales of district department stores during and since the war. For four years, 1938-1941, preceding the war, basement store sales had constituted from \$9.50 to \$9.90 of each \$100.00 of total sales. During 1942, the first war year, basement sales increased in importance, accounting for \$10.40 of each \$100.00 spent by consumers in district department stores. From then on, however, to the end of the war, the relative importance of basement sales dropped significantly to lower than prewar levels, the ratio of such sales standing at \$9.10 out of \$100.00 in 1945. The decline appears to have been accelerated rather than halted with the ending of the war, for in 1946 the basement received only \$8.70 of each \$100.00 of department-store customers' spending. This was the lowest figure in nine years of record. Plausible explanations of these wartime and postwar developments are not far to seek. The rise during 1942 in the ratio of basement sales appears to have been the result of (1) the presence of relatively greater stocks of prewar merchandise at the end of 1941 in the basement store than in any of the major departments of the main store with the exception of ready-to-wear accessories and (2) the disposition of consumers to seek the most for their money at a time when prices were rising and wages were still mostly at prewar rates. By 1943 industrial employment was experiencing its widest expansion, wages and disposable income were rising, prices were being largely controlled, consumer durable goods, especially new automobiles and major household appliances, were vanishing from the market, with the result that a considerable body of department-store customers seem to have altered their buying habits as to soft goods, transferring at least a portion of their patron-

age from basement departments to departments of the main store. This trend was continued to the end of the war, presumably by the persistence of high levels of employment and of disposable income and by increasing scarcity of consumer durables. The further decline during the first postwar year in the ratio of basement store sales, to \$8.70 out of each \$100.00 of total sales, indicates an extension rather than a reversal of the trend, due apparently to a substantial rise in the general level of wage rates, a higher level of postwar employment than had been anticipated, and the greatest total of consumer disposable income in the history of the nation. When the wartime accumulation of substitute and generally low-quality merchandise in basement stores has been replaced by moderately priced economy goods of prewar or higher quality, basement sales may return to the prewar pattern, as consumers in the lower and middle income brackets obligate their budgets with instalment purchases of automobiles and home furnishings. Any significant drop from present high levels of employment and disposable income would contribute to that result.

AGRICULTURE

Generally improved weather conditions during the latter part of January and the first half of February resulted in better growing conditions for truck crops, winter wheat, and ranges and permitted the resumption of field work. Fields of oats and barley, which had been frozen out in early January, have been seeded to spring grains or are ready to be seeded. Wheat in parts of the South High Plains suffered considerable damage from high winds and dust storms the last week of January. The condition of livestock and ranges declined generally in January, but some improvement occurred during the latter part of the month. An increase is reported in the number of cattle and sheep being fed in the district this year, as compared with last, and considerably larger stocks of corn for feeding are indicated.

CASH FARM INCOME

(Thousands of dollars)

	November 1946		Nov. 1946	Total receipts		
	Crops	Livestock*		Nov. 1945	Jan. 1 to Nov. 30 1946	1945
Arizona.....	\$10,332	\$15,297	\$25,629	\$15,319	\$142,770	\$118,070
Louisiana.....	29,698	8,727	38,425	42,921	202,608	187,147
New Mexico.....	10,731	25,623	36,354	24,633	124,841	107,820
Oklahoma.....	24,573	29,849	54,422	48,390	453,255	399,103
Texas.....	89,033	66,285	155,318	144,559	1,226,261	1,064,844
Total.....	164,367	145,781	310,148	275,822	2,149,735	1,886,984

*Includes receipts from the sale of livestock and livestock products.

SOURCE: United States Department of Agriculture.

Stocks of wheat in this district on January 1 were larger than those of a year ago, in spite of the low carry-over on July 1, 1946, and generally heavy millings and exports in recent months. Total stocks reported in Texas and in Oklahoma were 25,553,000 bushels and 26,540,000 bushels, respectively, or eight per cent and 13 per cent above the small stocks of a year earlier. Stocks stored on farms were considerably larger than on the same date a year ago, but off-farm stocks were slightly less. Stocks of corn in all off-farm positions were far above those of last year in Texas, Louisiana, and Oklahoma. Stocks of other grains, however, were generally well below those reported January 1, 1946.

Very unfavorable weather conditions during the first half of January retarded the growth of commercial truck crops, interrupted field work, and caused some loss of spinach production and early spring tomato plantings. Sleet and rains during this period, however, put the soil in good condition, and the cold weather is expected to reduce the usual danger from insects in all truck crop areas. With more favorable weather prevailing except for a few days in early February, growing crops and field work have made good progress since mid-January. Most

truck crops are again furnishing production of good quality, with the exception of spinach, which has showed little improvement. Much of the early spring tomato acreage has been replanted, and the planting of cantaloupes, cucumbers, and watermelons got underway during February in the early districts. Preliminary estimates place the South Texas onion crop at 36,600 acres—37 per cent below the acreage harvested last year and 24 per cent below the 1936-45 average. North Texas onion growers began transplanting operations early in February under favorable conditions.

The low temperatures early in the year caused little damage to citrus crops in Texas, and groves are generally in good condition. January rainfall was light, but sufficient irrigation water was available. Grapefruit production was estimated at 25.0 million boxes on February 1, the same as a month earlier. The estimate of orange production, however, was revised upward to 5.5 million boxes. About 9.6 million boxes of Texas grapefruit had been utilized prior to February 1, of which nearly 4.0 million boxes had been processed. This compares with a total utilization of about 12.0 million boxes to the same date last year, of which about 5.0 million were processed. Approximately 2.5 million boxes of oranges had been utilized compared with about 2.8 million last year. Shipments of grapefruit totaled 10,750 cars on February 15, or about seven per cent below shipments to that date in 1946. Orange shipments, totaling only 1,994 cars, lagged 16 per cent behind those of last season.

Damage to ranges and pastures from cold, stormy weather over most of the district in early January necessitated considerable supplementary feeding. Oats, barley, and winter weeds and grasses were killed in many areas, and wheat pasturage was reduced. Milder temperatures and increased moisture since that time in most areas have aided recovery of pastures and winter ranges. In Arizona, however, cold, dry weather continued to retard ranges throughout the month. Dry range feeds, although short, continued to furnish fair to good forage, except in some southern and western areas of Texas and parts of Arizona. Wheat pastures were severely damaged by blowing in parts of the South High Plains of Texas during the latter part of January and early February, but were still furnishing some grazing in other areas. In the district as a whole, range conditions were reported to be about average on February 1, but below the condition of a month earlier, except in Oklahoma and New Mexico.

Livestock, while undergoing some shrinkage in January due to the severe weather, were reported to be in about average condition throughout the district on February 1. Cattle losses from the cold were light, but some thin cattle are reported in southern and western areas of Texas where fall range feed was short. Losses of early lambs and kids were heavy during early January; other sheep losses were light, and stock sheep were in fair to good condition at the end of the month. Lambs on wheat pastures were doing well.

The number of cattle on full feed on January 1 in Texas was estimated at 121,000 head, or five per cent more than a year earlier. The increase was accounted for by a sharp increase in the number of cattle fed on farms, as most commercial feed lots were operating at about the same level as last year. It is not expected that many of the cattle and calves on feed will be brought to a high finish. Instead, it is anticipated that most feeders will keep cattle on feed for only a short time before marketing them in order to take advantage of prevailing prices. Cattle and calves on wheat pastures, far above the number of last year, have made good gains on the green forage except for the period when grazing was interrupted as a result of the snow and ice which blanketed the pastures earlier in the year. In Oklahoma the number of cattle and calves on full feed was below

that of last year, while in other states in the district the numbers remained unchanged or increased slightly.

Sheep and lambs on feed and wheat pastures in Texas on January 1 were estimated at 215,000 head, or about 23 per cent above the number of a year earlier. With more favorable grazing conditions during February, most lambs are expected to attain slaughter flesh for spring marketing.

LIVESTOCK RECEIPTS—(Number)

	Fort Worth			San Antonio		
	January 1947	January 1946	December 1946	January 1947	January 1946	December 1946
Cattle.....	57,006	37,879	75,816	28,091	26,494	41,048
Calves.....	30,040	21,212	49,954	19,250	18,183	24,650
Hogs.....	91,385	62,785	71,457	8,193	15,500	6,793
Sheep.....	52,107	50,383	66,373	11,117	13,419	25,508

COMPARATIVE TOP LIVESTOCK PRICES
(Dollars per hundred weight)

	Fort Worth			San Antonio		
	January 1947	January 1946	December 1946	January 1947	January 1946	December 1946
Beef steers.....	\$25.00	\$17.35	\$25.00	\$24.50	\$16.00	\$21.00
Stocker steers.....	18.50	14.00	18.00	.....	.....	.....
Heifers and yearlings.....	26.00	17.35	27.00	22.00	16.00	17.00
Butcher cows.....	15.00	13.00	16.00	14.00	13.00	14.50
Calves.....	21.00	15.00	20.00	22.50	14.75	21.00
Hogs.....	24.10	14.65	25.00	23.00	14.65	25.00
Lambs.....	23.00	14.00	22.00	20.35	13.25	19.50

Receipts of cattle, calves, and sheep at Fort Worth and San Antonio markets in January were far below those in December but substantially above receipts in January 1946. A considerable movement of cattle and sheep from grain pastures in the plains area was reported. Receipts of hogs at Fort Worth were well above those both of the preceding month and of the corresponding month last year. At San Antonio, however, they were only slightly greater than in December, and far below those in January 1946.

Somewhat lower prices were received by Texas farmers for many commodities on January 15 than a month earlier, according to the United States Department of Agriculture. Lamb and sheep prices rose seasonally, but were offset by declines in prices for other livestock. Hog prices continued to decline for the second consecutive month. Prices of beef cattle, poultry and poultry products, dairy products, hay, and potatoes were moderately lower, but in most cases were well above those of a year earlier. Wheat and grain sorghum prices rose slightly, but prices of all other grains except corn underwent some decline. Citrus prices continued to fall.

FINANCE

The downward trend in deposits at member banks in this district, which was in evidence during most of 1946, continued during January this year. The average of combined gross demand and time deposits of these banks, which amounted to \$5,298,000,000 during January this year, was \$46,000,000 below that in December and \$370,000,000 lower than the average during January 1946. The decrease from the preceding month occurred in demand deposits at both reserve city banks and country banks. Time deposits continued the upward trend that has been in progress for several years.

Reserve balances of member banks averaged \$771,000,000 during January, or about the same as in the preceding month. Due to the decline in deposits at member banks, required re-

CONDITION OF THE FEDERAL RESERVE BANK OF DALLAS

(Thousands of dollars)

	Feb. 15, 1947	Feb. 15, 1946	January 15, 1947
Total gold certificate reserves.....	\$474,306	\$497,989	\$494,865
Discounts for member banks.....	5,525	None	1,750
Foreign loans on gold.....	4,349	1,440	4,505
U. S. Government securities.....	908,308	892,733	904,115
Total earning assets.....	918,182	894,173	910,370
Member bank reserve deposits.....	748,198	741,341	777,750
Federal Reserve Notes in actual circulation.....	582,979	600,979	593,956

CONDITION STATISTICS OF WEEKLY REPORTING MEMBER BANKS
IN LEADING CITIES—Eleventh Federal Reserve District

(Thousands of dollars)

	Feb. 12, 1947	Feb. 13, 1946	January 8, 1947
Total loans and investments.....	\$1,859,564	\$2,168,850	\$1,877,380
Total loans.....	752,221	601,827	765,713
Commercial, industrial, and agricultural loans....	501,444	388,485	499,691
Loans to brokers and dealers in securities.....	5,899	5,461	10,059
Other loans for purchasing or carrying securities..	72,384	156,899	81,020
Real estate loans.....	54,636	31,584	50,646
Loans to banks.....	420	1,343	368
All other loans.....	117,438	78,055	123,929
Total investments.....	1,107,343	1,507,023	1,111,617
U. S. Treasury bills.....	34,135	61,399	41,115
U. S. Treasury certificates of indebtedness.....	241,221	511,493	240,848
U. S. Treasury notes.....	116,528	213,231	119,089
U. S. Government bonds.....	637,261	658,580	632,117
Obligations guaranteed by United States Gov't..	145	145	145
Other securities.....	78,053	62,175	78,308
Reserves with Federal Reserve Bank.....	392,210	328,972	399,571
Balances with domestic banks.....	212,705	275,335	230,629
Demand deposits—adjusted*.....	1,470,238	1,358,203	1,499,676
Time deposits.....	327,740	290,501	324,670
United States Government deposits.....	53,993	490,044	39,289
Interbank deposits.....	505,461	602,980	540,597
Borrowings from Federal Reserve Bank.....	1,500	None	1,500

*Includes all demand deposits other than interbank and United States Government, less cash items reported as on hand or in process of collection.

DEBITS TO INDIVIDUAL ACCOUNTS

(Thousands of dollars)

	January 1947	January 1946	Pctg. change over year	December 1946	Pctg. change over month
Abilene.....	\$ 26,366	\$ 22,983	+15	\$ 29,735	-11
Amarillo.....	69,938	51,188	+37	69,814	+1
Austin.....	123,206	117,692	+5	100,288	+23
Beaumont.....	73,142	66,814	+9	76,011	-4
Corpus Christi.....	64,095	68,994	-7	70,824	-10
Corpus Christi.....	10,993	9,500	+15	11,345	-3
Dallas.....	817,881	667,516	+23	923,337	-11
El Paso.....	105,596	92,516	+14	117,347	-10
Fort Worth.....	268,802	215,732	+25	314,402	-15
Galveston.....	56,119	52,275	+7	60,138	-7
Houston.....	770,835	636,286	+21	816,625	-6
Laredo.....	17,138	13,830	+24	17,094	+1
Lubbock.....	52,830	40,373	+31	58,008	-9
Monroe, La.....	32,431	26,299	+23	30,883	+5
Port Arthur.....	28,502	24,564	+16	28,880	-1
Roswell, N. M.....	13,155	12,171	+8	14,029	-6
San Angelo.....	22,706	22,541	+1	25,728	-12
San Antonio.....	223,787	197,287	+13	239,784	-7
Shreveport, La.....	112,610	92,571	+22	121,029	-7
Texarkana*.....	27,789	20,096	+38	26,004	+7
Tucson, Ariz.....	46,566	42,899	+9	51,785	-10
Tyler.....	33,713	29,704	+13	34,969	-4
Waco.....	47,418	39,175	+21	50,558	-6
Wichita Falls.....	44,047	39,397	+12	46,696	-6
Total—24 cities.....	\$3,089,775	\$2,602,863	+19	\$3,335,863	-7

*Includes the figures of two banks in Texarkana, Arkansas, located in the Eighth District.

†Change less than one-half of one per cent.

GROSS DEMAND AND TIME DEPOSITS OF MEMBER BANKS

Eleventh Federal Reserve District
(Average of daily figures in thousands of dollars)

	Combined total		Reserve city banks		Country banks	
	Gross demand	Time	Gross demand	Time	Gross demand	Time
January 1945.....	\$4,104,746	\$345,591	\$2,090,671	\$218,338	\$2,014,075	\$127,253
January 1946.....	5,215,222	452,353	2,681,476	286,583	2,533,746	165,770
September 1946.....	4,800,403	498,097	2,369,709	316,209	2,439,694	182,488
October 1946.....	4,845,188	500,813	2,342,242	317,424	2,502,946	183,389
November 1946.....	4,864,407	503,710	2,341,164	319,618	2,523,243	184,092
December 1946.....	4,837,618	506,972	2,323,519	321,379	2,513,999	185,293
January 1947.....	4,786,948	510,956	2,293,445	325,735	2,493,503	185,221

SAVINGS DEPOSITS

Reporting Banks—Eleventh Federal Reserve District

	January 31, 1947		Percentage change in savings deposits from		
	Number reporting banks	Number of savings depositors	Amount of savings deposits	Jan. 31, 1946	Dec. 31, 1946
Beaumont.....	3	12,425	\$ 7,480,398	- 2.4	+ 1.7
Dallas.....	8	132,077	76,367,174	+ 12.6	+ 0.3
El Paso.....	2	32,324	23,831,386	+ 11.1	+ 0.01
Fort Worth.....	3	41,959	34,214,529	+ 10.7	- 0.1
Galveston.....	4	24,871	20,595,772	+ 7.3	+ 0.4
Houston.....	8	105,114	70,982,048	+ 4.5	- 0.1
Lubbock.....	2	1,041	2,132,920	+107.7	- 2.6
Port Arthur.....	2	5,921	5,288,701	- 1.6	+ 0.1
San Antonio.....	5	39,625	46,139,916	+ 12.6	+ 0.1
Shreveport, La.....	3	32,427	26,243,982	+ 5.3	- 0.6
Waco.....	3	9,799	9,520,108	+ 10.9	+ 0.9
Wichita Falls.....	3	7,307	4,632,723	- 2.1	- 0.3
All other.....	56	62,683	53,400,211	+ 11.1	+ 0.2
Total.....	102	507,573	\$380,799,898	+ 9.2	+ 0.02

erves showed a decrease of about \$6,000,000, and excess reserves rose by a corresponding amount. Average excess reserves, which amounted to \$91,000,000 in January, were about \$52,000,000 below those of the same month in 1946.

The seasonal return flow of Federal Reserve notes of this bank from circulation continued in substantial volume during the month ended February 15. On that date, notes of this bank in actual circulation totaled \$583,000,000, representing a decrease of \$21,000,000 since the beginning of the year and a decrease of \$18,000,000 as compared with circulation on the corresponding date in 1946. The decline since the first of the year has occurred chiefly in notes of denominations of \$20 and under, which constitute about two-thirds of the total circulation and are most commonly used in ordinary business transactions.

Total deposits of weekly reporting member banks in this district showed a net decrease of \$46,800,000 during the five weeks between January 8 and February 12, 1947, due to the fact that substantial declines in interbank deposits and in adjusted demand deposits were only partially offset by increases in other deposits. To meet this decline, these banks reduced their loans and investments by \$17,800,00 and withdrew \$25,300,000 from their balances with the Federal Reserve Bank and with correspondent banks.

The decline of \$13,500,000 in total loans of these banks was more than accounted for by decreases in loans to brokers and dealers in securities, in loans to others for security trading, and in "all other" loans. On February 12, loans to others than brokers and dealers for security trading, totaling \$72,400,000, were \$84,500,000 lower than a year earlier and at about the level prevailing prior to the Victory Loan Drive, which began in the fall of 1945. During the five weeks ended February 12, loans for commercial, industrial, and agricultural purposes held relatively steady at a level slightly above the total at the beginning of the period. These loans showed a sharp upward trend in 1946 and are now about 30 per cent higher than a year ago. Real estate loans continued to increase and on February 12 were about 73 per cent higher than a year earlier. During the five weeks, these weekly reporting banks reduced their holdings of Treasury bills and Treasury notes by \$9,500,000 but increased their holdings of Treasury bonds by \$5,100,000.

Analysis of Changes in Member Bank Reserves

Beginning with this issue of the *Review*, there will be published each month a statement showing weekly changes in the several factors affecting the reserve balances of member banks in the Eleventh Federal Reserve District. This regional analysis corresponds roughly with the analysis of member bank reserves, Reserve Bank credit, and related items compiled by the Board of Governors of the Federal Reserve System for the country as a whole. However, the changes are brought about by somewhat different factors because of the interregional character of the transactions.

The daily transactions of individuals, businesses, and industrial concerns and the operations of the United States Treasury have an important bearing upon the supply and use of member bank reserves within a Federal Reserve district. Likewise, the ability of member banks to make loans or investments and the attitudes of these banks in those matters are influenced by the availability of reserves to the banks and by the methods through which the reserves are obtained.

The item "Federal Reserve Credit—Local" shows the change in the amount of Federal Reserve credit extended to member banks within the district. An increase in the use of such credit has the effect of increasing member bank reserves while a decrease in its use reduces reserves by a corresponding amount.

New Member Banks

During February 1947, the following three banking institutions in the Eleventh Federal Reserve District became members of the Federal Reserve System:

The Hampton Oaks State Bank, Houston, Texas, a newly organized institution, opened for business on February 14, 1947 as a member of the Federal Reserve System. This bank has paid-in capital funds of \$195,000, including capital of \$150,000, surplus of \$25,000, and undivided profits of \$20,000. Its officers are: J. D. Kirkpatrick, President; W. U. McCutchen, Executive Vice President; S. N. Adams, Vice President; and G. W. Derby, Vice President and Cashier.

The Bastrop Bank & Trust Company, Bastrop, Louisiana, was admitted to membership in the Federal Reserve System on February 15, 1947. This bank has total resources of \$6,400,000 and has total capital funds of \$223,000, including capital of \$100,000, surplus of \$100,000, and undivided profits of \$23,000. Its officers are: Geo. T. Madison, Chairman of Board; H. Webb Madison, President; Sampson Snyder, Vice President; W. L. Mattison, Vice President and Cashier; and Victor O. Cain, Assistant Cashier.

The Fair Park National Bank of Dallas, Dallas, Texas, a newly organized institution, opened for business on February 24, 1947 as a member of the Federal Reserve System. This bank has paid-in capital funds of \$300,000, including capital of \$200,000, surplus of \$50,000, and undivided profits of \$50,000. Its officers are: Gus Cook, President; Haywood C. Chalk, Vice President; E. L. Prewitt, Cashier; and W. E. Enslin, Assistant Cashier.

New Par Banks

On February 15, 1947, the First State Bank, Goodlett, Texas, a nonmember bank located in the Eleventh Federal Reserve District, began remitting at par for checks drawn upon it, and, therefore, has been added to the Federal Reserve Par List. This bank has deposits of \$292,000 and has a capital account of \$42,000, including a capital of \$10,000 and surplus and undivided profits of \$32,000. Its officers are: E. E. Wrinkle, President; E. G. Ross, Vice President; and Walter Barbee, Cashier.

On February 26, 1947, the Citizens State Bank, Carizzo Springs, Texas, a nonmember bank located in the Eleventh Federal Reserve District, began remitting at par for checks drawn upon it, and, therefore, has been added to the Federal Reserve Par List. This bank has deposits of \$1,883,000 and has a capital account of \$122,000, including a capital of \$50,000 and surplus and undivided profits of \$72,000. Its officers are: A. Wildenthal, President; C. K. Cunningham, Vice President; and Wm. H. McKinney, Vice President and Cashier.

The loss or gain in member bank reserve balances through interdistrict commercial and financial transactions arises out of the movement of funds between this district and other sections of the country. The movements result, on the one hand, from the checks and drafts drawn on banks within the district and paid to drawees in other sections of the country and from transfers of funds by banks in the district to other areas, and, on the other hand, from similar transactions which draw funds into

the district. A net loss of funds through these operations reduces reserves while a net gain in funds increases reserves.

The net receipts or net disbursements of funds within the district by the United States Treasury are indicated by the item "Treasury Operations." When the Treasury disburses more funds within the district than it receives from the district through tax collections, the sale of securities, and other operations, member bank reserves are increased by the amount of the excess of disbursements over receipts. On the other hand, when receipts exceed disbursements, member bank reserves are reduced by the amount of this excess.

The amount of currency in use by the public may fluctuate substantially from day to day. Each day the Federal Reserve Bank makes shipments of currency and coin to some member banks and receives shipments from other banks. When currency is paid into circulation, member bank reserves are reduced, and when currency is received from circulation, member bank reserves are increased. The item "Currency Transactions" reflects roughly the net change in the amount of currency and coin in circulation within the district.

Changes in the items "Other Deposits at the Federal Reserve Bank" and "Other Federal Reserve Accounts" are usually very small and have little effect upon member bank reserves.

A more detailed statement of the meaning of the several items and of the techniques used in computing the weekly changes may be obtained upon request from the Research Department of the Federal Reserve Bank of Dallas.

Member Bank Reserves and Related Factors Eleventh Federal Reserve District

(Millions of dollars)

	Changes in weeks ended				Cumulative changes	
	Feb. 12	Feb. 5	Jan. 29	Jan. 22	Four weeks ended Feb. 12	Jan. 1 to Feb. 12
	1947	1947	1947	1947	1947	1947
Federal Reserve Credit—local....	- 5.6	- 0.4	+16.9	- 0.6	+10.3	+ 6.8
Interdistrict commercial and financial transactions.....	+11.5	-52.1	- 5.0	-18.8	-64.4	-124.5
Treasury operations.....	+ 2.4	+52.0	-35.6	- 3.1	+15.7	+ 53.9
Currency transactions.....	+ 0.1	- 0.8	+ 7.2	+ 5.8	+12.3	+ 32.0
Other deposits at the Federal Reserve Bank.....	+ 0.1	+ 0.1	- 0.2	- 0.1	- 0.1	+ 0.2
Other Federal Reserve Accounts.....	- 0.1	- 0.3	+ 0.2	+ 0.1	- 0.1	- 0.1
Member Bank reserve balances....	+ 8.4	- 1.4	-16.7	-16.7	-26.4	- 31.7

Note: Amounts preceded by a minus sign reduce reserves; those preceded by plus sign add to reserves.

INDUSTRY

The value of construction contracts awarded in the district increased substantially in December and January, and in the latter month was only 17 per cent below the postwar peak reached in May 1946. Although the value of awards for each major category of construction has risen markedly since November, that for nonresidential building has increased in relative importance, constituting a much larger portion of total awards than during the spring and summer of 1946 or during the years immediately preceding the war.

Value of Construction Contracts Awarded in Eleventh Federal Reserve District, Selected Periods

	(Thousands of dollars)			
	Total construction	Residential building	Nonresidential building	Engineering construction
January 1947 [Ⓐ]	70,331	24,263	32,662	13,406
December 1946.....	43,341	14,980	21,034	7,327
November 1946.....	29,747	10,759	9,991	8,997
May 1946*.....	84,961	50,974	18,205	15,781
January 1946.....	35,680	9,722	19,914	6,044
1941 monthly average.....	37,245	10,307	13,682	13,256
1940 monthly average.....	22,807	7,996	8,281	6,530
1939 monthly average.....	16,593	6,953	5,117	4,523

[Ⓐ]Preliminary.

*Postwar peak except for nonresidential building, in which peak was reached in January 1947.

SOURCE: F. W. Dodge Corporation.

The recent increase in the value of awards is attributable in part to relaxation of Civilian Production Administration con-

trols over nonresidential building early in January 1947. Although approval is still granted only to projects which are considered essential and nondeferable, or which are necessary to alleviate or forestall an extreme and unusual hardship, or which will use little or no scarce building materials needed for the Veterans' Emergency Housing Program, the weekly quota for nonresidential contract approvals has been increased approximately forty per cent.

Partial alleviation of building material shortages also has been a stimulus to expansion of construction activity in recent months. Production of many important building materials has increased very rapidly since last June, as the accompanying table indicates, whereas construction activity leveled off the last four months of 1946. Distributors, consequently, have been able to add to their stocks, although the inventory situation remains spotty. Hardwood flooring, electrical equipment, paint, millwork, and similar "finishing" items are still scarce, and the shortages of cast-iron soil pipe and structural iron bars remain acute, but most of the basic construction materials now can be obtained in nearly all areas with much less difficulty than during the spring and summer of 1946. The higher levels of production and stocks, if they continue, should permit builders to expand activity during 1947 considerably above the levels attained last year without encountering the acute material shortages which delayed construction, prevented efficient utilization of labor, and contributed to a marked increase in construction costs during 1946.

Production of Selected Construction Materials—United States

(1939 monthly average=100)

	November 1946	June 1946	January 1946
Composite index*.....	149.2	141.5	101.9
Lumber.....	127.6	132.4	79.6
Brick.....	115.2	97.2	72.8
Clay sewer pipe.....	114.4	101.7	93.3
Structural clay tile.....	139.3	118.0	87.6
Structural insulation board.....	192.0	157.5	149.4
Gypsum (including lath).....	238.8	181.7	168.1
Cement.....	153.0	145.0	96.0
Asphalt roofing.....	107.0	186.5	169.2
Cast-iron soil pipe.....	141.0	85.5	88.7
Tubs.....	167.6	116.2	81.1
Lavatories.....	161.3	105.9	98.3
Steel conduits and fittings.....	186.1	146.2	127.9

*Sixteen items.

SOURCE: Diverse, summarized by United States Department of Commerce.

The index of wholesale prices of building materials is now approximately 40 per cent higher than a year ago and nearly 90 per cent above the 1939 level. The increases in material prices appear to have been offset partially in recent months by reduction of contractors' margins and improved efficiency at construction sites arising from more orderly delivery of materials and more intensive utilization of labor. Continuation of these economies could contribute to some reduction in construction costs during coming months unless counteracted by further increases in material prices and wage rates.

Indexes of Wholesale Prices of Building Materials United States

	(1926=100)			
	Feb. 8, 1947*	Dec. 1946	Jan. 1946	Aug. 1939
Building materials.....	170.6	157.8	120.0	89.6
Brick and tile.....	N. A.	130.0	116.9	90.5
Cement.....	N. A.	106.9	101.1	91.3
Lumber.....	N. A.	227.2	158.5	90.1
Paint and paint materials.....	N. A.	154.4	107.8	82.1
Plumbing and heating.....	N. A.	114.9	95.0	79.3
Structural steel.....	N. A.	120.1†	107.3	107.3
Other building materials.....	N. A.	125.3†	106.6	89.5

N. A.—Not available.

*Weekly data not strictly comparable with monthly index.

†November 1946.

SOURCE: Bureau of Labor Statistics.

The increase in construction costs which has already occurred since the end of the war has influenced many business enterprises, institutions, and private individuals to defer their building plans. Nevertheless, there apparently remains, even at

present cost levels, a sufficiently large backlog of effective demand for all types of construction to sustain for some time production of building materials at the high rates which have been attained. Further increases in building costs or a change in general economic conditions, however, might occasion a marked reduction in construction awards, with consequent retarding effects upon activity in the building materials industry.

BUILDING PERMITS

	January 1947		Percentage change valuation from	
	No.	Valuation	January 1946	December 1946
Abilene.....	57	\$ 138,415	- 74	+ 1
Amarillo.....	150	423,510	- 39	+ 38
Austin.....	258	971,830	- 30	+ 14
Beaumont.....	222	257,123	+ 13	- 29
Corpus Christi.....	376	1,101,450	+ 44	+ 66
Dallas.....	936	2,643,891	- 53	+ 42
El Paso.....	97	689,070	+ 70	+ 221
Fort Worth.....	417	1,806,082	- 8	+ 67
Galveston.....	116	117,333	- 56	+ 32
Houston.....	473	7,463,335	- 7	+ 587
Lubbock.....	134	405,915	- 5	+ 21
Port Arthur.....	113	127,251	- 56	+ 152
San Antonio.....	887	1,440,648	- 45	+ 12
Shreveport, La.....	271	940,925	+ 47	+ 122
Waco.....	113	447,334	+ 111	- 46
Wichita Falls.....	49	165,275	- 55	+ 29
Total.....	4,669	\$19,139,387	- 22	+ 98

†Change less than one-half of one per cent.

VALUE OF CONSTRUCTION CONTRACTS AWARDED

(Thousands of dollars)

	January 1947	January 1946	December 1946
Eleventh District—total.....	\$ 70,331	\$ 35,680	\$ 43,341
Residential.....	538,711	9,722	14,980
All other.....	46,068	25,958	28,361
United States*—total.....	571,628	357,501	457,278
Residential.....	287,419	89,715	193,365
All other.....	314,209	267,786	263,913

*37 states east of the Rocky Mountains.

SOURCE: F. W. Dodge Corporation.

Activity at cottonseed oil mills in Texas and in the United States was curtailed by shortage of cottonseed during the first six months of the 1946-1947 season, and crushings at Texas mills were smaller than during the comparable period of any prior year of record. Stocks of cottonseed and cottonseed oil have been depleted in order to meet essential demands. Mill stocks of hulls and cake and meal were somewhat larger on January 31, 1947, however, than at the same time in recent years.

COTTONSEED AND COTTONSEED PRODUCTS

	Texas		United States	
	August 1 to January 31	Last season	August 1 to January 31	Last season
Cottonseed received at mills (tons).....	538,711	800,374	2,818,304	2,801,501
Cottonseed crushed (tons).....	485,144	564,613	2,165,458	2,386,326
Cottonseed on hand Jan. 31 (tons).....	110,821	119,960	770,652	633,523
Production of products:				
Crude oil (thousand lbs.)....	144,512	170,218	674,954	742,120
Cake and meal (tons).....	227,039	261,234	955,998	1,052,942
Hulls (tons).....	107,149	131,125	500,511	568,940
Linters (running bales).....	166,418	178,749	605,754	720,611
Stocks on hand Jan. 31:				
Crude oil (thousand lbs.)....	8,587	15,726	36,298	51,670
Cake and meal (tons).....	46,812	16,342	158,905	60,868
Hulls (tons).....	34,020	19,479	100,114	52,278
Linters (running bales).....	18,561	23,794	105,949	96,045

SOURCE: United States Bureau of Census.

DOMESTIC CONSUMPTION AND STOCKS OF COTTON—(Bales)

	January 1947	January 1946	December 1946
Consumption at:			
Texas mills.....	19,424	17,825	16,345
United States mills.....	947,036	811,218	774,177
U. S. stocks—end of month:			
In consuming establishments.....	2,259,002	2,369,311	2,226,832
Public storage and compresses.....	5,234,705	9,970,340	5,985,625

Production of crude oil in the district declined to an average of 2,134,000 barrels daily in January, the lowest level since March 1946. Production is estimated to have increased moderately in February, however, and almost certainly will in-

crease further in March, since the Texas production allowable for the month has been raised substantially. Stocks of crude oil in the district and in the United States have been reduced moderately since the end of 1946 and at mid-February were slightly smaller than at the same time last year. Stocks of fuel oil have also been reduced from the high levels attained last fall, and gasoline stocks, although seasonally increased during January, were somewhat smaller at the end of the month than a year earlier.

CRUDE OIL PRODUCTION—(Barrels)

	January 1947		Increase or decrease in daily average production from	
	Total production	Daily avg. production	Dec. 1946	Jan. 1946
District 1.....	591,500	19,081	+ 221	N.A.
2.....	4,129,900	133,223	- 1,899	N.A.
3.....	12,800,650	412,924	- 10,634	N.A.
4.....	6,406,900	206,674	- 2,563	N.A.
5.....	1,046,900	33,771	- 874	N.A.
6.....	9,365,200	302,103	- 13,532	N.A.
Other 6.....	3,082,750	99,443	- 104	N.A.
7b.....	1,055,200	34,039	- 464	N.A.
7c.....	855,800	27,606	- 146	N.A.
8.....	14,488,700	467,281	- 31,216	N.A.
9.....	3,665,150	118,231	+ 108	N.A.
10.....	2,541,350	81,979	+ 893	N.A.
Total Texas.....	60,027,000	1,936,355	- 60,240	- 78,157
New Mexico.....	3,204,850	103,382	+ 4,708	+ 5,009
North Louisiana.....	2,934,150	94,650	+ 3,113	+ 15,372
Total District.....	66,166,000	2,134,387	- 58,645	- 57,776
Outside District.....	77,114,700	2,487,571	- 17,824	+ 85,944
United States.....	143,280,700	4,621,958	- 76,469	+ 28,168

SOURCE: Estimated from American Petroleum Institute weekly reports.
N.A.—Not available.

CHANGE IN METHOD OF REPORTING PETROLEUM PRODUCTION

Effective with this issue of the *Review*, production of crude oil in Texas will be reported by Railroad Commission districts instead of by major geographical areas in order to conform with the method of reporting now followed by the American Petroleum Institute, from which current estimates of production are obtained. Reports of production in other areas will be shown in the same manner as heretofore. The geographical areas in Texas for which crude oil production was formerly reported are equivalent to the following Railroad Commission districts or combinations of such districts:

Geographical areas	Railroad Commission Districts
Panhandle Texas.....	10
North Texas.....	7B and 9
West Texas.....	7C and 8
Total East Texas.....	5 and 6
East Central Texas.....	5 and 6, excepting Upshur, Gregg, and Rusk Counties
East Texas.....	Upshur, Gregg, and Rusk Counties in District 6
Southwest Texas.....	1, 2, and 4
Coastal Texas.....	3

